AUG 19 1989

FLMI 209 125121, 120168, 120169, 125129

FLOOD INSURANCE STUDY

MONROE COUNTY, FLORIDA AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
KEY COLONY BEACH, CITY OF	125121
KEY WEST, CITY OF	120168
LAYTON, CITY OF	120169
UNINCORPORATED AREAS	125129

OCTOBER 17, 1989

Federal Emergency Management Agency

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

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FLOOD INSURANCE STUDY

MONROE COUNTY, FLORIDA,
AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the geographic area of Monroe County, Florida, including the Cities of Key Colony Beach, Key West, and Layton, and the unincorporated areas of Monroe County (hereinafter referred to collectively as Monroe County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates and assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

This Flood Insurance Study revises and supersedes the previous Flood Insurance Studies for the Cities of Key Colony Beach, Key West, and Layton, Florida (References 1-3) and the unincorporated areas of Monroe County, Florida (Reference 4). This information will be used by the community to update existing floodplain regulations as part of the regular phase of the National Flood Insurance Program. The information will also be used by local and regional planners to further promote sound land use and floodplain development.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the state (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were performed by Gee & Jenson Engineers-Architects-Planners, Inc. (the Study Contractor) for the Federal Emergency Management Agency (FEMA), under Contract No. EMW-84-C-1609. This study was completed in April 1988.

1.3 Coordination

In April 1984, initial Consultation and Coordination Officer meetings were held with representatives of FEMA, the communities, and the Study Contractor. Coordination with community officials and Federal, State, and regional agencies produced a variety of information pertaining to floodplain regulations, available maps and topography, flood history, and other

hydrographic data. Agencies contacted for information for this study included: the Monroe County Chamber of Commerce; the Cities of Key Colony Beach, Layton, and Key West; the National Ocean Service - National Geodetic Information Center; the Florida Department of Transportation; the Florida Keys Aqueduct Authority; the National Ocean Service - Tidal Datum Section; the National Weather Service; and the U.S. Geological Survey (USGS).

On January 17, 18, and 19, 1989, the results of this Flood Insurance Study were reviewed and accepted at final coordination meetings attended by representatives of the Study Contractor, FEMA, and the communities.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the geographic area of Monroe County, Florida. The area of study is shown on the Vicinity Map (Figure 1).

A detailed coastal flooding analysis was performed on the complete coastline of Monroe County, where the flooding sources are the Atlantic Ocean, Florida Bay, Biscayne Bay, and Gulf of Mexico.

The areas studied were selected with priority given to all known flood hazard areas and areas of projected development or proposed construction through April 1993. The scope and methods of study were proposed to and agreed upon by FEMA and Monroe County, Florida.

2.2 Community Description

Monroe County is the southernmost county in the State of Florida and the continental United States, and encompasses an area of 1,418 square miles. It is bordered on the north by Collier County, on the east by Dade County and the Atlantic Ocean, on the south by the Atlantic Ocean, and on the west by the Gulf of Mexico.

U.S. Route 1 (State Road 5) is the primary north-south transportation artery. Also known as the Overseas Highway, it was constructed on the abandoned bed of the Overseas Railroad and is the only highway connecting Key West with the remaining islands and the mainland. State Roads 905, 931, 940, 942, 939, 941, and A1A serve traffic for the larger islands and all connect to U.S. Route 1. Another transportation route is the Intracoastal Waterway, which extends the length of the Keys.

The county seat is the City of Key West, which is approximately 158 miles southwest of Miami and is the most populated area of Monroe County. Other unincorporated communities, such as Key Largo, Tavernier, Islamorada, Big Pine, and Marathon, are located near the middle and northern parts of the Keys. The estimated 1986 population of Monroe County was 72,471 (Reference 5), compared to the reported 1980 population of 63,188, (Reference 6), representing a 14.7-percent increase in six years.

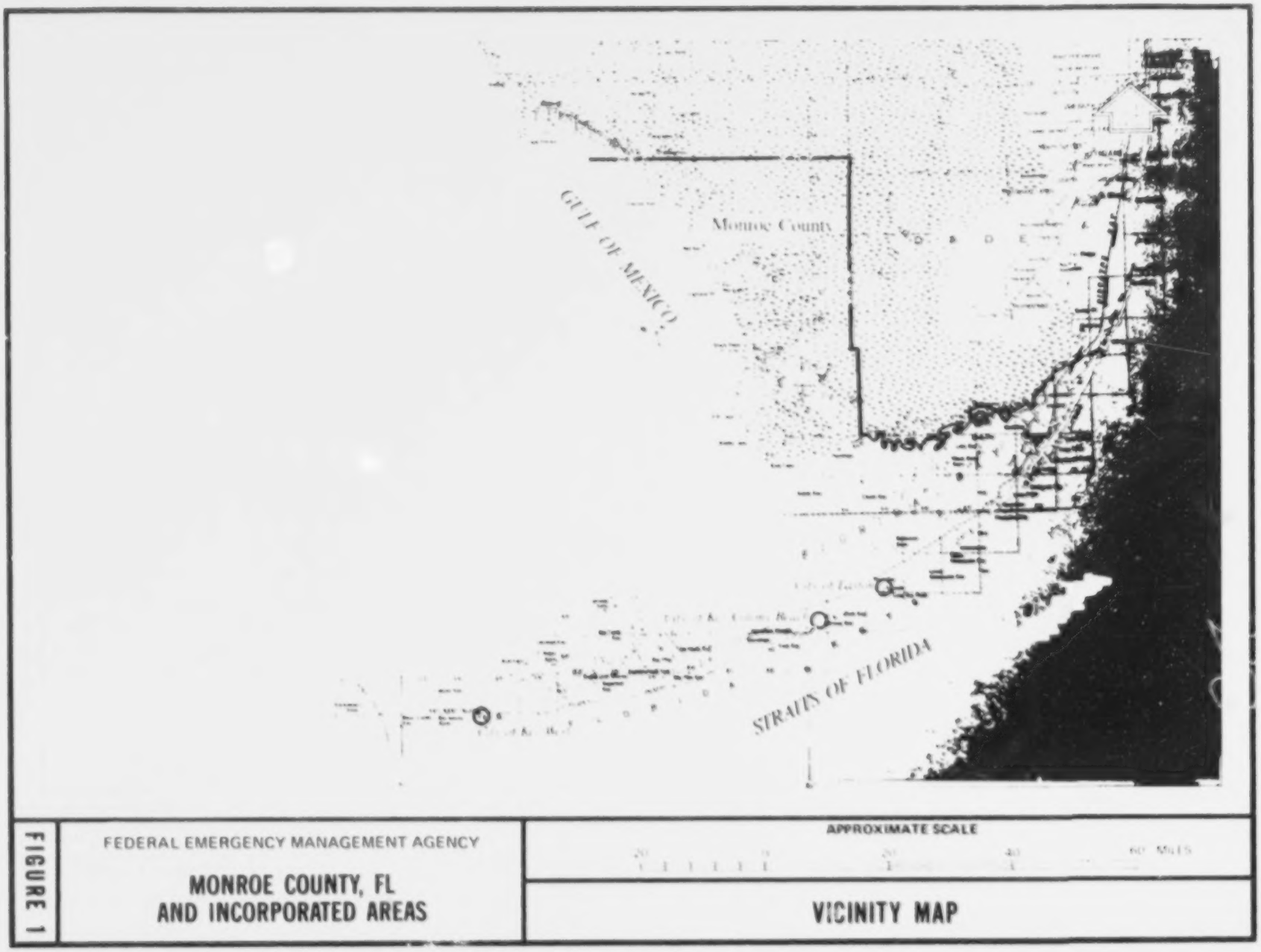


FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

APPROXIMATE SCALE

0 10 20 40 60 MILES

VICINITY MAP

The topography of Monroe County has two major features: the chain of coral and limestone islands that form the Florida Keys, and the low, swampy land that forms the mainland portion of the County (Reference 7).

Monroe County has a mild, subtropical climate, with an average temperature of about 70 degrees Fahrenheit. Average annual rainfall is about 38 inches. Prevailing winds are from the southeast during spring and summer, and from the northeast in the fall (Reference 7).

Residential, commercial, and industrial development in Monroe County occurs mainly along the Florida Keys. The mainland remains largely undeveloped and includes the Big Cypress National Preserve and Everglades National Park.

2.3 Principal Flood Problems

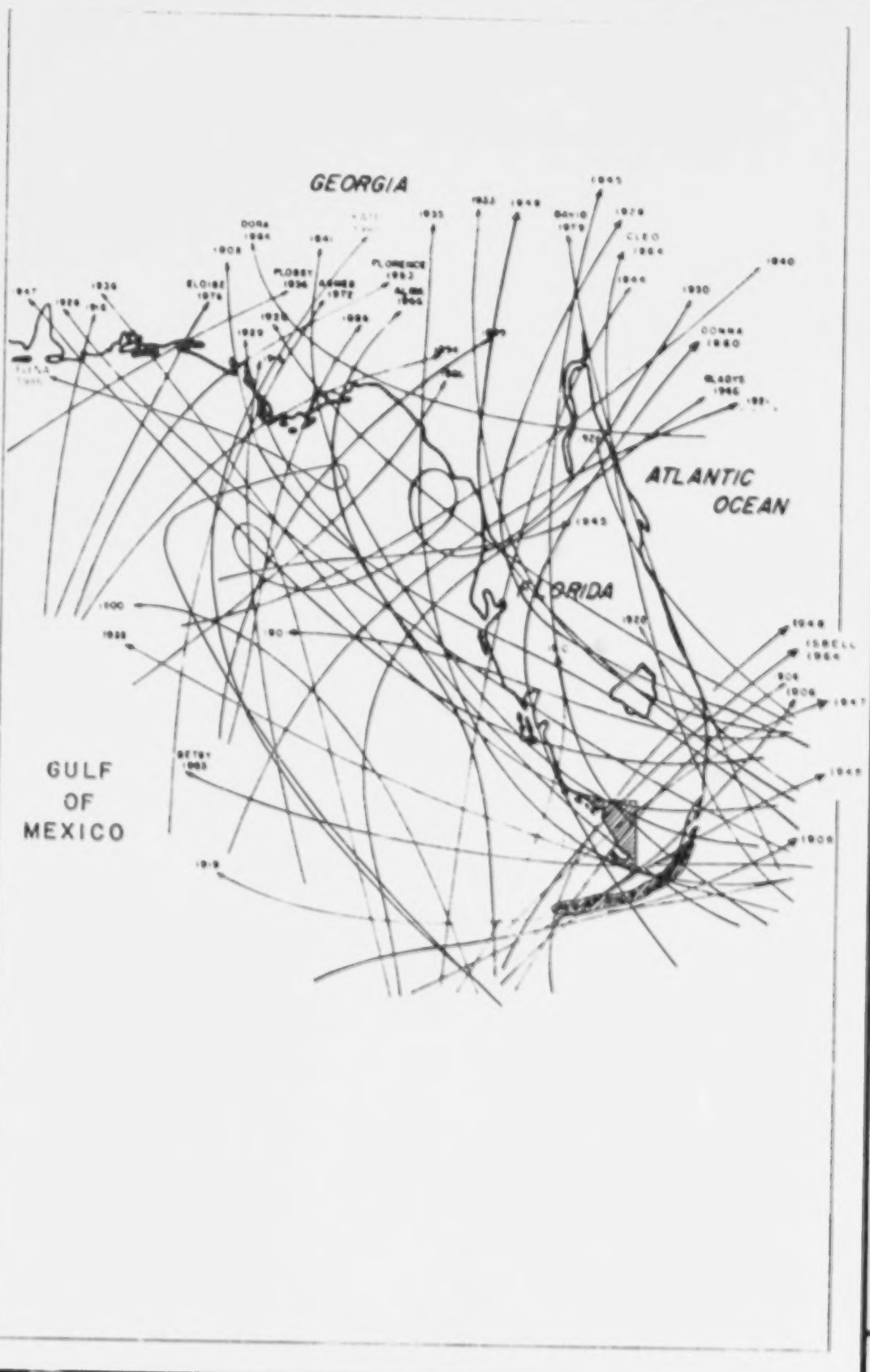
Coastal areas of the county bordering the Atlantic Ocean and Gulf of Mexico are subject to storm surge flooding as a result of hurricane and tropical storm activity. Large tidal surges, combined with wave action and the heavy rainfall that accompany these storms, have caused flooding.

There is considerable historical evidence of storms affecting the southeastern coast of the United States prior to the 1900's (Reference 8). The tracks of some of the larger storms occurring in the region are shown in Figure 2. Some of the most significant of these storms affecting the study area are as follows:

- 1919 (September 2 to 15) - The hurricane passed Key West and the Dry Tortugas on a westward course. Key West recorded winds of 95 mph, a central pressure of 28.81 inches, and tide levels of 6 to 7 feet above Mean Sea Level (MSL) (Reference 9).

- 1929 (September 22 to October 4) - The hurricane crossed over Key Largo on a northwesterly course. Key Largo reported winds estimated at over 100 mph, a central pressure recorded at 28 inches, and tide levels of 8 to 9 feet above MSL. In the vicinity of Key West, tide levels only reached 5 to 6 feet above MSL and the highest winds recorded were 66 mph (Reference 9).

- 1935 (August 29 to September 10) - The small, extremely violent Labor Day hurricane crossed the Florida Keys on a northwesterly track. The Tavernier-Islamorada area reported winds estimated at 120 mph, and gusts estimated at 190-210 mph. Tide levels in the Florida Keys ranged from 14 feet above MSL in Key Largo to 18 feet above MSL at Lower Matecumbe Key. In the vicinity of Key West, tide levels of only 2 feet above MSL were recorded (Reference 9).



NOT TO SCALE

HISTORICAL STORM TRACKS (1900-1995)

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

FIGURE 2

- 1945 (September 12 to 19) - The hurricane passed to the north of Key Largo, on a northwesterly track with tides reported in southern Biscayne Bay of 13.7 feet above MSL, winds recorded at 138 mph, and a recorded central pressure of 28.15 inches at Carrysfort Reef (Reference 9).

- 1948 (September 19 to 25) - The hurricane passed to the east of Key West on a northerly track and entered the mainland near the Everglades with recorded winds at Key West of 122 mph and a central pressure of 28.45 inches. Tide levels in the area of Vaca Key were 7 to 8 feet above MSL, and in the vicinity of Key West tide levels were 2.7 feet above MSL (Reference 9).

- 1948 (October 4 to 8) - The hurricane moved northeastward over the Florida Keys near Marathon, with estimated winds of over 100 mph and a central pressure of 28.80 recorded at Sombrero Key. Tide levels in south Biscayne Bay were recorded at 6.2 feet above MSL and in the vicinity of Key West tide levels were 2.0 feet above MSL (Reference 9).

- Hurricane King, 1950 (October 15 to 19) - Hurricane King made landfall at Miami and traveled inland parallel to the coastline to the north. Recorded wind speeds at Miami were 122 mph, and central pressure was recorded at 28.25 inches. Tide levels in southern Biscayne Bay reached 3.7 feet above MSL (Reference 9).

- Hurricane Donna, 1960 (August 29 to September 13) - Hurricane Donna curved northwestward over the central Keys near Long Key and then traveled northward toward the Gulf Coast towns of Naples and Ft. Myers. Wind speeds were recorded on Sombrero Key of 128 mph, and a central pressure of 28.44 inches was recorded. At the Everglades a wind speed of 150 mph was estimated and a central pressure of 28.15 inches was recorded. Tide levels were reported at Upper Matecumbe Key of 13.45 feet above MSL; Plantation Key, 10.01 feet above MSL; Key Largo, 8.89 feet above MSL; 4.7 feet above MSL in the vicinity of Key West; and 9.68 feet above MSL at the Everglades (Reference 9).

- Hurricane Cleo, 1964 (August 20 to September 5) - Hurricane Cleo made landfall near Miami traveling in a north to northwesterly direction with estimated winds of 135 mph in Miami and a recorded central pressure of 28.57 inches in North Miami. The tide levels in Biscayne Bay were estimated to be 3.6 feet above MSL (Reference 9).

- Hurricane Betsy, 1965 (August 26 to September 12) - Hurricane Betsy passed over Marathon in the Florida Keys while moving westward into the Gulf of Mexico. The lowest central pressure was measured in Tavernier at 28.12 inches and wind speeds were estimated to be 120 mph. The highest tide level in Tavernier was 7.7 feet above Mean Low Water (MLW). Tide levels north of Key Largo were estimated at 9 feet above MSL. The Flamingo Ranger Station in the Everglades

estimated winds to be 160 mph, recorded a central pressure of 28.4 inches, and reported tide levels of 7.4 feet above MSL (Reference 9).

- Hurricane Alma, 1966 (June 4 to 14) - Hurricane Alma passed 60 miles west of Key West while traveling northward into the Gulf of Mexico. The Dry Tortugas measured a central pressure of 28.65 inches with winds up to 125 mph. At Key West, winds of 60 mph were recorded and tide levels were 3.5 feet above MLW (Reference 9).

2.4 Flood Protection Measures

Flood protection measures are not known to exist within the study area.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that is expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1 percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Analyses were carried out to establish the peak elevation-frequency relationships for each flooding source studied in detail.

Inundation from the Atlantic Ocean and the Gulf of Mexico caused by passage of storms (storm surge) was determined using the joint probability method (Reference 10). The storm populations were described by probability distributions of five parameters that influence surge heights. These were central pressure depression (which measures the intensity of the storm), radius to maximum winds, forward speed of the storm, shoreline crossing point, and crossing angle. These characteristics were statistically described based on an analysis of observed storms in the vicinity of Monroe County. Primary sources of data for this were "Tropical Cyclones of the North Atlantic Ocean, 1871-1984" (Reference 11); "Some Climatological Characteristics of Hurricanes and Tropical Storms, Gulf and East Coasts of the United States" (Reference 12); "Meteorological Criteria for Standard Project Hurricane and Probable Maximum Hurricane Wind Fields, Gulf and

East Coasts of the United States" (Reference 13); and "Hurricane Climatology for the Atlantic and Gulf Coasts of the United States" (Reference 14); all by the National Oceanic and Atmospheric Administration (NOAA). A summary of the parameters used for the area is presented in Table 1, Parameter Values for Surge Elevations.

For areas subject to flooding directly from the Atlantic Ocean and the Gulf of Mexico, the FEMA standard storm surge model (Reference 15) was used to simulate the coastal surge generated by any chosen storm (that is, any combination of the five storm parameters defined previously). By performing such simulations for a large number of storms, each of known total probability, the frequency distribution of surge height can be established as a function of coastal location. These distributions incorporate the large-scale surge behavior, but do not include an analysis of the added effects associated with much finer scale wave phenomena, such as wave height or runup. As the final step in the calculations, the astronomic tide for the region is then statistically combined with the computed storm surge to yield recurrence intervals of total water level.

Wave setup was determined to significantly contribute to the total stillwater flood levels along the Atlantic Ocean, Gulf of Mexico, Biscayne Bay, and Florida Bay. The amount of wave setup was calculated using the methodology outlined in the U.S. Army Corps of Engineers "Shore Protection Manual" (Reference 16).

The storm-surge elevations for the 10-, 50-, 100-, and 500-year floods have been determined for Monroe County and are shown in Table 2, Summary of Stillwater Elevations. The analyses reported herein reflect the stillwater elevations due to tidal and wind setup effects and include the contribution of wave action effects.

3.2 Hydraulic Analyses

Hydraulic analyses, considering storm characteristics and the shoreline and bathymetric characteristics of the flooding sources studied, were carried out to provide estimates of the elevations of floods of the selected recurrence intervals along each of the shorelines.

The FEMA storm surge model (Reference 15) was used to simulate the hydrodynamic behavior of the surge generated by the various synthetic storms. This model utilizes a grid pattern approximating the geographical features of the study area and the adjoining areas. Surges were computed utilizing grids of 5 by 5 nautical miles and 1 by 1 nautical miles, depending on the resolution required.

Underwater depths and land heights for the model grid systems were obtained from NOAA bathymetric maps at a scale of 1:25000 (Reference 17), and, for nearshore areas, from NOAA hydrographic surveys (Reference 18). Water depths for the subgrid channels modeled were obtained from NOAA nautical charts (Reference 19). Land elevations for the models were obtained from USGS topographic maps (Reference 20), plans and profiles for

CENTRAL PRESSURE DEPRESSION (MILLIBARS)	16	35	55	75	95	99
AVERAGE ASSIGNED PROBABILITIES	0.29	0.26	0.19	0.22	0.03	0.01
STORM RADIUS TO MAXIMUM WINDS (NAUTICAL MILES)		13		22		30
PROBABILITY		0.51		0.28		0.21
FORWARD SPEED (KNOTS)		10			18	
PROBABILITIES:		0.83			0.17	
DIRCECTION OF STORM PATH (DEGREES FROM TRUE NORTH)		210			240	
PROBABILITY		0.309			0.241	
FREQUENCY OF STORM OCCURRENCE (STORM/NAUTICAL MILE/YEAR)				0.00453		

TABLE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

MAINLAND
PARAMETER VALUES FOR SURGE ELEVATIONS
ENTERING

CENTRAL PRESSURE DEPRESSION (MILLIBARS)	16	35	55	75	95	99
AVERAGE ASSIGNED PROBABILITIES	0.29	0.26	0.19	0.22	0.03	0.01
STORM RADIUS TO MAXIMUM WINDS (NAUTICAL MILES)		13		22		30
PROBABILITY		0.51		0.28		0.21
FORWARD SPEED (KNOTS)		10			18	
PROBABILITIES:		0.83			0.17	
DIRCECTION OF STORM PATH (DEGREES FROM TRUE NORTH)				160		
PROBABILITY				0.404		
FREQUENCY OF STORM OCCURRENCE (STORM/NAUTICAL MILE/YEAR)				0.00453		

TABLE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

MAINLAND
PARAMETER VALUES FOR SURGE ELEVATIONS
ALONGSHORE

CENTRAL PRESSURE DEPRESSION (MILLIBARS)	22	55	79	95	101
AVERAGE ASSIGNED PROBABILITIES	0.44	0.36	0.13	0.06	0.01
STORM RADIUS TO MAXIMUM WINDS (NAUTICAL MILES)		13		22	
PROBABILITY		0.63		0.37	
FORWARD SPEED (KNOTS)		10		18	
PROBABILITIES:		0.96		0.04	
DIRCECTION OF STORM PATH (DEGREES FROM TRUE NORTH)			83		
PROBABILITY			0.125		
FREQUENCY OF STORM OCCURRENCE (STORM/NAUTICAL MILE/YEAR)			0.00453		

TABLE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

MAINLAND
PARAMETER VALUES FOR SURGE ELEVATIONS
EXITING

CENTRAL PRESSURE DEPRESSION (MILLIBARS)	16	35	55	75	95	101
AVERAGE ASSIGNED PROBABILITIES	0.30	0.23	0.21	0.17	0.08	0.01
STORM RADIUS TO MAXIMUM WINDS (NAUTICAL MILES)		13		22		30
PROBABILITY		0.58		0.22		0.20
FORWARD SPEED (KNOTS)		10			18	
PROBABILITIES: ENTERING		0.90			0.10	
DIRCECTION OF STORM PATH (DEGREES FROM TRUE NORTH)		160			210	
PROBABILITY		0.239			0.350	
FREQUENCY OF STORM OCCURRENCE (STORM/NAUTICAL MILE/YEAR)				0.00417		

TABLE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

FLORIDA KEYS
PARAMETER VALUES FOR SURGE ELEVATIONS
ENTERING

CENTRAL PRESSURE DEPRESSION (MILLIBARS)	16	35	55	75	95	101
AVERAGE ASSIGNED PROBABILITIES	0.30	0.23	0.21	0.17	0.08	0.01
STORM RADIUS TO MAXIMUM WINDS (NAUTICAL MILES)	13			22		30
PROBABILITY	0.58			0.22		0.20
FORWARD SPEED (KNOTS)	10				18	
PROBABILITIES:	0.90				0.10	
DIRCECTION OF STORM PATH (DEGREES FROM TRUE NORTH)	240					
PROBABILITY	0.261					
FREQUENCY OF STORM OCCURRENCE (STORM/NAUTICAL MILE/YEAR)	0.00471					

TABLE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

FLORIDA KEYS
PARAMETER VALUES FOR SURGE ELEVATIONS
ALONGSHORE

CENTRAL PRESSURE DEPRESSION (MILLIBARS)	16	35	55	75	95	101
AVERAGE ASSIGNED PROBABILITIES	0.30	0.23	0.21	0.17	0.08	0.01
STORM RADIUS TO MAXIMUM WINDS (NAUTICAL MILES)	13			22		30
PROBABILITY	0.58			0.22		0.20
FORWARD SPEED (KNOTS)	10				18	
PROBABILITIES: ALONGSHORE	0.96				0.04	
DIRCECTION OF STORM PATH (DEGREES FROM TRUE NORTH)	83					
PROBABILITY	0.261					
FREQUENCY OF STORM OCCURRENCE (STORM/NAUTICAL MILE/YEAR)	0.00471					

TABLE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

FLORIDA KEYS
PARAMETER VALUES FOR SURGE ELEVATIONS
EXITING

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
GULF OF MEXICO							
1	1708,1716	3.2	5.5	8.4[3]	7.3	VE	11-13
						AE	8-10
		3.2	5.5	6.8	7.3	VE	9-11
						AE	7- 9
ATLANTIC OCEAN							
2	1716	2.7	4.8	7.6[3]	6.4	VE	10-12
						AE	8-10
		2.7	4.8	6.0	6.4	AE	6- 8
GULF OF MEXICO							
3	1709	5.1	6.5	7.4	9.2	VE	9-11
						AE	7- 9
ATLANTIC OCEAN							
4	1709,1717	3.0	5.5	8.5[3]	7.4	VE	11-13
						AE	9-11
		3.0	5.5	7.2	7.4	VE	9-11
						AE	7- 9
GULF OF MEXICO							
5	1728	4.7	7.6	8.4	10.4	VE	11-13
						AE	9-11

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDE EFFECTS OF WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

GULF OF MEXICO—ATLANTIC OCEAN

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10 YEAR	50 YEAR	100 YEAR	500 YEAR		
ATLANTIC OCEAN							
6	1728,1736	3.4	6.3	9.4[3]	8.6	VE AE	12-14 9-11
		3.4	6.3	7.1	8.6	AE	7- 9
GULF OF MEXICO							
7	1475,1727	4.5	7.5	10.7[3]	9.6	VE	13-17
		4.6	7.4	8.1	9.9	VE AE	10-13 8-10
	1729	5.3	8.4	9.4	11.6	VE AE	12-15 9-11
ATLANTIC OCEAN							
8	1729,1737	3.3	5.9	8.9[3]	7.9	VE AE	11-14 9-11
		3.9	7.0	7.9	9.9	VE AE	10-11 8- 9
GULF OF MEXICO							
9	1475,1731	4.7	7.8	10.8[3]	9.9	VE AE	13-17 11-12
		5.8	9.2	10.1	12.4	VE AE	12-15 10-12

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—GULF OF MEXICO

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
10	1731,1733,1734	3.6	6.1	9.2[3]	8.4	VE AE	11-14 9-11
		3.8	6.6	7.6	9.0	AE	8-10
GULF OF MEXICO							
11	1475,1490	4.8	8.0	11.0[3]	9.9	VE AE	13-17 11-13
		5.8	9.0	9.6	11.7	VE AE	12-15 10-12
ATLANTIC OCEAN							
12	1751,1752	3.4	5.9	8.8[3]	8.7	VE AE	11-14 9-11
		3.4	5.9	6.6	8.7	AE	7- 9
GULF OF MEXICO							
13	1480,1490,1491 1493	5.2	8.4	9.1	10.5	VE AE	11-14 10-11
		5.5	8.9	9.7	10.8	VE AE	12-15 10-12

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—GULF OF MEXICO

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PAN- L	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
14	1493,1756,1757	3.8	6.5	9.5[3]	9.2	VE	12-15
						AE	10-12
		4.6	7.9	8.7	9.8	VE	11-13
						AE	9-11
ATLANTIC OCEAN							
15	1492,1494	5.7	8.8	9.5[3]	11.6	VE	12-15
						AE	10-12
GULF OF MEXICO							
16	1485,1492	5.6	8.9	9.6	10.9	VE	12-15
						AE	10-12
ATLANTIC OCEAN							
17	1492,1494	5.5	8.4	10.5[3]	11.2	VE	13-16
		5.3	7.9	8.7	10.7	VE	11-13
						AE	10-11
GULF OF MEXICO							
18	1200,1505,1511	5.1	8.4	10.3	11.0	VE	12-16
		5.2	8.7	9.4	10.7	VE	12-15
						AE	9-12

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—GULF OF MEXICO

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
19	1511	5.2	8.2	10.2[3]	10.9	VE AE	12-16 10-12
GULF OF MEXICO							
20	1200,1505,1511	5.7	8.8	9.3	10.4	VE AE	12-14 10-12
		5.3	7.9	8.6	11.0	VE	11-13 9-11
ATLANTIC OCEAN							
21	1511,1513	5.2	8.0	10.0[3]	10.4	VE AE	12-15 10-12
		5.2	7.6	8.4	11.4	AE	8- 9
GULF OF MEXICO							
22	1200,1505,1512	6.1	8.4	9.6	11.1	VE AE	12-15 10-12
		3.8	6.4	7.1	8.0	VE AE	9-11 7- 9

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—GULF OF MEXICO

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
23	1512	5.2	8.0	9.0[3]	10.9	VE AE	11-14 9-11
GULF OF MEXICO							
24	1200,1505,1512	4.9	8.0	8.8	10.4	VE AE	11-14 9-11
		4.0	6.8	7.6	8.7	VE AE	10-12 8-10
		3.8	6.4	7.1	8.0	AE	7- 9
ATLANTIC OCEAN							
25	1512,1514	3.9	6.7	9.8[3]	9.4	VE AE	12-15 10-12
		3.9	6.7	7.6	9.4	AE	8- 9
GULF OF MEXICO							
26	1200,1506,1508	5.1	8.2	8.8	10.2	VE AE	11-14 9-11
		4.8	7.3	8.0	9.1	VE AE	10-12 9-10
	1516	4.1	6.7	7.4	8.2	VE AE	9-11 8- 9

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
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FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—GULF OF MEXICO

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
27	1516,1518	3.8	6.5	9.5[3]	8.7	VE AE	12-15 9-11
		3.8	6.5	7.2	8.7	AE	7- 9
GULF OF MEXICO							
28	1200,1506,1508 1516	5.2	8.4	9.1	10.35	VE AE	11-14 9-11
		4.8	7.3	8.0	9.10	VE AE	10-12 9-10
		4.1	6.7	7.3	9.0	VE AE	9-10 7- 9
ATLANTIC OCEAN							
29	1518	3.8	6.5	9.5[3]	8.7	VE AE	12-15 9-11
		4.1	6.7	7.2	9.0	VE AE	9-11 7- 9
GULF OF MEXICO							
30	1200,1507,1526 1528,1536	5.0	7.7	8.5	10.0	VE AE	11-13 9-11
		4.2	6.6	7.2	8.7	VE AE	9-11 8- [illegible]

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

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FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—GULF OF MEXICO

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
31	1536, 1537, 1539	3.1	5.2	8.1[3]	6.9	VE	10-12
						AE	8-10
		3.1	5.2	3.8	6.9	AE	7- 8
GULF OF MEXICO							
32	1225, 1535, 1545	3.5	5.6	6.5	8.2	VE	9-10
						AE	6- 9
		3.1	5.2	5.9	7.0	VE	8- 9
						AE	6- 8
ATLANTIC OCEAN							
33	1545	3.0	5.1	8.0[3]	6.8	VE	10-12
						AE	8-10
		3.0	5.1	5.7	6.8	AE	6- 8
ATLANTIC OCEAN							
34	1578	3.5	5.3	8.2[3]	6.9	VE	10-13
						AE	8-10
		3.5	5.3	5.9	6.9	VE	8- 9
						AE	7- 8

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—GULF OF MEXICO

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
FLORIDA BAY							
35	1578	4.6	6.8	9.2[3]	9.0	VE	11-14
						AE	9-11
		4.6	6.8	7.7	9.0	AE	8- 9
ATLANTIC OCEAN							
36	1579	3.5	5.3	8.2[3]	6.9	VE	10-13
						AE	8-10
		3.5	5.3	5.9	6.9	VE	8- 9
						AE	6- 8
ATLANTIC OCEAN							
37	1579	3.5	5.3	8.2[3]	6.9	VE	10-13
						AE	8-10
		3.5	5.3	5.9	6.9	VE	8- 9
						AE	6- 8
FLORIDA BAY							
38	1581	4.6	6.8	9.2[3]	9.0	VE	11-14
						AE	9-11
		4.6	6.8	5.9	9.0	AE	6- 8

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

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FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

FLORIDA BAY—ATLANTIC OCEAN

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
39	1581	3.5	5.3	8.2[3]	6.9	VE	10-13
						AE	8-10
		3.5	5.3	5.9	6.9	AE	6- 8
FLORIDA BAY							
40	1581	4.6	6.8	9.2[3]	9.0	VE	11-14
						AE	9-11
		4.6	6.8	6.9	9.0	VE	9-10
						AE	7- 9
ATLANTIC OCEAN							
41	1582,1584	3.6	5.4	8.3[3]	7.0	VE	10-13
						AE	8-10
		3.7	5.5	6.1	7.1	AE	6- 8
FLORIDA BAY							
42	1582	4.7	7.2	9.4[3]	9.0	VE	11-15
						AE	9-11
		4.7	7.2	6.3	9.0	AE	6- 8

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

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FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—FLORIDA BAY

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
43	1582	3.6	5.4	8.3[3]	7.0	VE	10–13
						AE	8–10
		3.7	5.5	6.1	7.1	AE	6– 8
FLORIDA BAY							
44	1582	4.7	7.2	9.4[3]	9.0	VE	11–15
						AE	9–11
		4.7	7.2	6.3	9.0	AE	6– 8
ATLANTIC OCEAN							
45	1601	3.7	5.5	8.4[3]	7.1	VE	10–13
						AE	8–10
		3.7	5.5	6.6	7.1	AE	7– 8
FLORIDA BAY							
46	1601,1288	4.8	7.5	9.7[3]	9.2	VE	12–15
						AE	10–12
		4.8	7.5	8.2	9.2	AE	8–10

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

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FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—FLORIDA BAY

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
47	1289	3.7	5.5	8.4[3]	7.1	VE AE	11-13 8-10
FLORIDA BAY							
48	1289	4.8	7.5	9.7[3]	9.2	VE AE	12-15 10-12
		4.8	7.5	8.2	9.2	AE	8-10
ATLANTIC OCEAN							
49	1293	3.9	5.7	8.6[3]	7.3	VE AE	11-13 9-11
		3.9	5.7	6.3	7.3	AE	6- 8
FLORIDA BAY							
50	1291,1293	4.4	6.7	8.8[3]	8.5	VE AE	11-14 9-11
		4.4	6.7	7.3	8.5	AE	7- 9

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
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FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—FLORIDA BAY

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
51	1311	4.2	5.9	8.8[3]	7.5	VE	11-14
						AE	9-11
		4.2	5.9	6.5	7.5	AE	7- 9
FLORIDA BAY							
52	1311	4.0	6.3	8.4[3]	8.2	VE	11-13
						AE	8-10
		4.0	6.3	7.0	8.2	AE	7- 8
ATLANTIC OCEAN							
53	1308,1316	4.2	5.9	8.8[3]	7.5	VE	11-14
						AE	9-11
		4.2	5.9	6.5	7.5	AE	7- 8

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
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FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—FLORIDA BAY

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
FLORIDA BAY							
54	1314	4.0	6.3	8.4[3]	8.2	VE	11-13
						AE	8-10
		4.0	6.3	7.0	8.2	AE	7- 8
ATLANTIC OCEAN							
55	1308	4.2	5.9	8.8[3]	7.5	VE	11-14
						AE	9-11
		4.2	5.9	6.5	7.5	AE	7- 8
FLORIDA BAY							
56	1308	4.0	6.3	8.4[3]	8.2	VE	11-13
						AE	8-11
		4.0	6.3	7.0	8.2	AE	7- 8
ATLANTIC OCEAN							
57	1326	4.3	6.1	9.0[3]	7.7	VE	11-14
						AE	9-11
		4.3	6.1	6.7	7.7	AE	7- 8

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

FLORIDA BAY—ATLANTIC OCEAN

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
FLORIDA BAY							
58	1326	3.9	5.9	8.0[3]	7.4	VE	10-12
						AE	8-10
		3.9	5.9	6.3	7.4	AE	6- 8
ATLANTIC OCEAN							
59	1326	4.3	6.1	9.0[3]	7.7	VE	11-14
						AE	9-11
		4.3	6.1	6.7	7.7	AE	7- 9
FLORIDA BAY							
60	1326	3.9	5.9	8.0[3]	7.4	VE	10-12
						AE	8-10
		3.9	5.9	5.8	7.4	AE	6- 7
ATLANTIC OCEAN							
61	1327	4.3	6.1	9.0[3]	7.7	VE	11-14
						AE	9-11
		4.3	6.1	6.7	7.7	AE	7- 9

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

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FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

FLORIDA BAY—ATLANTIC OCEAN

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
FLORIDA BAY							
62	1327	3.9	5.9	8.0[3]	7.4	VE AE	10-12 8-10
		3.9	5.9	6.5	7.4	AE	7- 8
ATLANTIC OCEAN							
63	1327	4.3	6.1	9.0[3]	7.7	VE AE	11-14 9-11
		4.3	6.1	6.7	7.7	AE	7- 9
FLORIDA BAY							
64	1327,1114	3.9	5.9	8.0[3]	7.4	VE AE	10-12 8-10
		3.9	5.9	6.5	7.4	AE	6- 8
ATLANTIC OCEAN							
65	1114	4.3	6.1	9.0[3]	7.7	VE AE	11-14 9-11
		4.3	6.1	6.7	7.7	AE	7- 9

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
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FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—FLORIDA BAY

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
FLORIDA BAY							
66	1112,1114	3.9	6.0	8.1[3]	7.6	VE AE	10-13 8-10
		3.9	6.0	6.2	7.6	AE	6- 8
ATLANTIC OCEAN							
67	1118	4.6	6.3	9.1[3]	7.9	VE AE	11-14 9-11
		4.6	6.3	6.9	7.9	AE	7- 9
FLORIDA BAY							
68	1116,1118	3.9	6.0	8.2[3]	7.8	VE AE	11-13 8-10
		3.9	6.0	6.7	7.8	VE AE	9-10 7- 9
ATLANTIC OCEAN							
69	1117	4.6	6.3	9.1[3]	7.9	VE AE	11-14 9-11
FLORIDA BAY							
70	1117	4.6	6.3	7.7	7.9	VE AE	10-12 8-10

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

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FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

FLORIDA BAY—ATLANTIC OCEAN

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
71	1117	4.6	6.3	9.1[3]	7.9	VE	11-14
						AE	9-11
		4.6	6.3	6.9	7.9	AE	7- 9
FLORIDA BAY							
72	1117	3.9	6.0	7.7[3]	7.8	VE	10-12
						AE	8-10
ATLANTIC OCEAN							
73	1128	4.8	6.4	9.3[3]	8.0	VE	11-14
						AE	9-11
		4.8	6.4	7.0	8.0	AE	7- 9
FLORIDA BAY							
74	1128	3.9	6.2	7.9[3]	8.1	VE	10-12
						AE	8-10
		3.9	6.2	7.1	8.1	AE	7- 8

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

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FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—FLORIDA BAY

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
75	1129	4.8	6.4	9.3[3]	8.0	VE	11-14
						AE	9-11
		4.8	6.4	7.0	8.0	AE	9-11
FLORIDA BAY							
76	1129	3.9	6.2	7.9[3]	8.1	VE	10-12
						AE	8-10
		3.9	6.2	6.3	8.1	AE	6- 8
ATLANTIC OCEAN							
77	1131	4.8	6.4	9.3[3]	8.0	VE	11-14
						AE	9-11
FLORIDA BAY							
78	1131	3.9	6.2	7.9[3]	8.1	VE	10-12
						AE	8-10
ATLANTIC OCEAN							
79	1131	5.0	6.6	9.4[3]	8.2	VE	11-15
						AE	9-11

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—FLORIDA BAY

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
FLORIDA BAY							
80	1131	5.0	6.6	7.2	8.2	AE	7- 9
		3.9	6.2	7.9[3]	8.1	VE AE	10-12 8-10
ATLANTIC OCEAN							
81	0994	5.0	6.6	9.4[3]	8.2	VE AE	11-15 9-11
FLORIDA BAY							
82	0994	4.0	6.4	8.2[3]	8.4	VE AE	10-13 8-10
ATLANTIC OCEAN							
83	0994	5.0	6.6	9.4[3]	8.2	VE AE	12-15 9-11
		5.0	6.6	7.2	8.2	VE AE	10-11 7- 9
FLORIDA BAY							
84	0992,0994	4.0	6.4	8.2[3]	8.4	VE AE	10-13 8-10

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

FLORIDA BAY–ATLANTIC OCEAN

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
ATLANTIC OCEAN							
85	1003,1012	5.2	6.7	9.6[3]	8.3	VE	12-15
						AE	10-12
		5.2	6.7	7.3	8.3	VE	10-11
						AE	7- 9
FLORIDA BAY							
86	1003	4.0	6.4	8.2[3]	8.4	VE	10-13
						AE	8-10
		4.0	6.4	7.2	8.4	AE	7- 9
ATLANTIC OCEAN							
87	1004	5.2	6.7	9.6[3]	8.3	VE	12-15
		5.2	6.7	7.3	8.3	VE	10-11
						AE	7- 9
FLORIDA BAY							
88	1001,1004	5.1	7.6	9.4[3]	9.4	VE	12-15
						AE	10-11

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—FLORIDA BAY

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10 YEAR	50 YEAR	100 YEAR	500 YEAR		
ATLANTIC OCEAN							
89	0844,1007	5.4	6.9	9.7[3]	8.5	VE	12-15
						AE	10-12
		5.4	6.9	7.4	8.5	VE	10-11
						AE	7-10
FLORIDA BAY							
90	0840,0843,0844	6.0	8.4	9.6[3]	10.2	VE	12-15
						AE	10-12
		6.0	8.4	9.0[3]	10.2	VE	11-14
						AE	9-11
ATLANTIC OCEAN							
91	0865	5.4	6.9	9.7[3]	8.5	VE	12-15
						AE	10-12
		5.4	6.9	7.4	8.5	VE	10-11
						AE	7-10
ATLANTIC OCEAN							
92	0865	5.4	6.9	9.7[3]	8.5	VE	12-15
						AE	10-12
		5.4	6.9	8.2[3]	8.5	AE	8-10

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN—FLORIDA BAY

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10-YEAR	50-YEAR	100-YEAR	500-YEAR		
BISCAYNE BAY							
93	0835,0865	6.4	8.8	10.0[3]	10.8	VE AE	12-14 10-12
ATLANTIC OCEAN							
94	0855	5.7	7.0	9.9[3]	8.6	VE AE	12-15 10-12
		5.7	7.0	7.6	8.6	AE	8-10
BISCAYNE BAY							
95	0855	6.4	8.8	10.0[3]	10.8	VE AE	12-14 10-12
ATLANTIC OCEAN							
96	0665,0668	5.7	7.0	9.9[3]	8.6	VE AE	12-15 10-12
		5.7	7.0	7.6	8.6	AE	8-10
BISCAYNE BAY							
97	0835	6.4	8.8	10.0[3]	10.8	VE AE	12-14 10-12

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

BISCAYNE BAY– ATLANTIC OCEAN

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10 YEAR	50 YEAR	100 YEAR	500 YEAR		
BISCAYNE BAY							
98	0835	6.0	8.4	9.6[3]	10.2	VE	12-15
						AE	10-12
		6.0	8.4	9.1	10.2	VE	11-14
						AE	9-11
ATLANTIC OCEAN							
99	0666	6.0	7.2	10.1[3]	8.8	VE	12-16
						AE	10-12
		6.0	7.2	7.8	8.8	AE	8-10
BISCAYNE BAY							
100	0666	6.4	8.9	10.2[3]	11.1	VE	12-16
						AE	10-12
		6.4	8.9	7.8	11.1	AE	8-10
ATLANTIC OCEAN							
101	0658,0659	5.9	7.2	10.1[3]	8.8	VE	12-16
						AE	10-12
		5.9	7.2	9.0[3]	8.8	AE	9-10
BISCAYNE BAY							
102	0658	6.3	9.4	10.9[3]	12.0	VE	13-17
						AE	11-12

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

BISCAYNE BAY– ATLANTIC OCEAN

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10 YEAR	50 YEAR	100 YEAR	500 YEAR		
ATLANTIC OCEAN							
103	0659	6.3	9.4	9.3	12.0	AE	9-10
		5.9	7.2	10.1[3]	8.8	VE AE	12-16 10-12
		5.9	7.2	8.7	8.8	AE	9-10
BISCAYNE BAY							
104	0657,0659	6.3	9.4	10.9[3]	12.0	VE AE	13-17 11-13
		6.3	9.4	9.1	12.0	AE	9-10
GULF OF MEXICO							
105	0750,0600,0925	5.4	8.1	10.5[3]	10.5	VE AE	13-16 11-13
		5.4	8.1	9.0	10.5	VE AE	11-14 9-11
		3.2	6.1	7.1	9.0	VE AE	9-11 7- 9

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

ATLANTIC OCEAN--BISCAYNE BAY--GULF OF MEXICO

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10 YEAR	50 YEAR	100 YEAR	500 YEAR		
GULF OF MEXICO							
106	0725,0750,0600	7.3	10.9	14.3[3]	14.0	VE AE	16-22 14-15
		7.3	10.9	12.0	14.0	VE AE	14-17 12-14
		3.2	8.1	9.0	10.5	VE AE	11-14 9-11
		3.2	6.1	7.1	9.0	VE AE	9-11 7-9
		2.8	3.7	4.7	6.8	AE	5-7
GULF OF MEXICO							
107	0550,0575,0600	6.1	11.4	15.2[3]	15.9	VE AE	17-23 15-17
		6.1	11.4	12.9	15.9	VE AE	15-17 13-15
		5.7	8.6	9.8	12.4	VE AE	12-15 10-12
		4.6	7.0	7.9	10.0	VE AE	10-11 8-9
		2.9	5.0	6.2	8.4	AE	7

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

GULF OF MEXICO

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10 YEAR	50 YEAR	100 YEAR	500 YEAR		
GULF OF MEXICO							
108	0450,0475,0500	6.1	11.2	15.6[3]	16.9	VE AE	18-24 16-17
		6.1	11.2	13.3	16.9	VE AE	15-17 13-15
GULF OF MEXICO							
108	0450,0475,0500	6.4	9.8	11.2	14.1	AE	11-13
		5.1	7.8	8.9	11.2	AE	9-11
		3.3	6.0	7.4	10.1	AE	7- 9
		2.9	3.6	4.7	6.0	AE	5- 6
GULF OF MEXICO							
109	0275,0375,0400 0450	7.6	12.8	16.7[3]	17.8	VE AE	19-26 17-19
		7.6	12.8	14.4	17.8	VE AE	16-17
		5.1	9.2	10.9	14.6	VE AE	13-16 11-13
		5.2	7.9	9.0	11.3	VE AE	11-13 9-11
		3.1	5.1	6.8	9.5	AE	7- 9
		3.0	4.4	5.0	6.2	AE	6

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

GULF OF MEXICO

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10 YEAR	50 YEAR	100 YEAR	500 YEAR		
GULF OF MEXICO							
110	0100,0125,0250 0325,0350	6.7	10.1	13.7[3]	14.4	VE	16-21
						AE	14-16
		6.7	10.1	11.5[3]	14.4	VE	14-15
						AE	11-13
		3.2	8.1	9.0	10.5	VE	11-14
						AE	9-11
		4.1	6.3	7.1	9.0	VE	9-11
						AE	7-9
		3.6	5.3	6.0	7.5	AE	6
GULF OF MEXICO							
111	0200,0050	5.1	7.7	11.0[3]	11.1	VE	13-17
						AE	11-13
		5.1	7.7	8.8	11.1	AE	9-11
						VE	9-11
		4.1	6.2	7.0	8.8	AE	7-9
ATLANTIC OCEAN							
112	1675	3.2	4.9	7.8[3]	6.9	VE	10-12
						AE	8-10
		3.2	4.9	5.5	6.9	VE	8-9
						AE	6-8

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

GULF OF MEXICO–ATLANTIC OCEAN

FLOODING SOURCE AND TRANSECT	FLOOD INSURANCE RATE MAP PANEL	STILLWATER ELEVATION (FEET NGVD)				ZONE	BASE FLOOD ELEVATION[1,2] (FEET NGVD)
		10 YEAR	50 YEAR	100 YEAR	500 YEAR		
GULF OF MEXICO							
113	1675	3.2	4.9	7.8[3]	6.9	VE	10 - 12
						AE	8 - 10
		3.2	4.9	5.5	6.9	VE	8 - 9
						AE	6 - 8

[1]ROUNDED TO THE NEAREST FOOT AND MAY INCLUDE EFFECTS OF WAVE ACTION
[2]DUE TO MAP SCALE LIMITATIONS, BASE FLOOD ELEVATIONS SHOWN ON MAP MAY REPRESENT AVERAGE ELEVATIONS FOR THE ZONES DEPICTED
[3]INCLUDES EFFECTS DUE TO WAVE SETUP

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

SUMMARY OF STILLWATER ELEVATIONS

GULF OF MEXICO

Florida Keys Aqueduct Authority Water Supply and Transmission Main (Reference 21), and Florida Department of Transportation plans for most of the Keys' bridges and approaches (Reference 22).

The methodology for analyzing the effects of wave heights associated with coastal storm surge flooding is described in a report prepared by the National Academy of Sciences (NAS) (Reference 23). This method is based on the following major concepts. First, depth-limited waves in shallow water reach a maximum breaking height that is equal to 0.78 times the stillwater depth. The wave crest is 70 percent of the total wave height above the stillwater level. The second major concept is that wave height may be diminished by dissipation of energy due to the presence of obstructions, such as sand dunes, dikes and seawalls, buildings, and vegetation. The amount of energy dissipation is a function of the physical characteristics of the obstruction and is determined by procedures prescribed in the NAS report (Reference 23). The third major concept is that wave height can be regenerated in open fetch areas due to the transfer of wind energy to the water. This added energy is related to fetch length and depth.

Wave heights were computed along transects (cross-section lines) that were located along the coastal areas, as illustrated in Figure 3, Transect Location Map, in accordance with the "Users Manual for Wave Height Analysis" (Reference 24). The transects were located with consideration given to the physical and cultural characteristics of the land so that they would closely represent conditions in their locality. Transects were spaced close together in areas of complex topography and dense development. In areas having more uniform characteristics, they were spaced at large intervals. It was also necessary to locate transects in areas where unique flooding existed and in areas where computed wave heights varied significantly between adjacent transects.

Each transect was taken perpendicular to the shoreline and extended inland to a point where wave action ceased. Along each transect, wave heights and elevations were computed considering the combined effects of changes in ground elevations, vegetation, and physical features. The stillwater elevations for the 100-year flood were used as the starting elevations for these computations. Wave heights were calculated to the nearest 0.1 foot, and wave elevations were determined at whole-foot increments along the transects. The location of the 3-foot breaking wave for determining the landward limit of the V zone (area with velocity wave action) was computed at each transect. Also, along the open coast, the V zone designation applies to all areas seaward of the crest of the primary dune system. Table 9 provides a listing of the transect locations and stillwater starting elevations, as well as the final wave crest elevations.

TRANSECT LOCATION MAP

APPROXIMATE SCALE

MONROE COUNTY, FL
AND INCORPORATED AREAS

FIGURE 3

APPROXIMATE SCALE

TRANSECT LOCATION MAP

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL
AND INCORPORATED AREAS

FIGURE 3

APPROXIMATE SCALE

TRANSECT LOCATION MAP

MONROE COUNTY, FL
AND INCORPORATED AREAS

FIGURE 3

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	WAVE CREST
1	From the Gulf of Mexico coastline across Key West to Angela Avenue	8.4[1]	13.0
2	From the Atlantic coastline, north of Whitehead Spit across Key West to Whitehead Street	7.6[1]	11.8
3	From the Gulf of Mexico coastline across Dredgers Key and Key West to U.S. Route 1	7.4	11.4
4	From the Atlantic coastline at Smathers Beach across Key West to U.S. Route 1	8.5[1]	13.2
5	From the Gulf of Mexico coastline, south of Raccoon Key, across Key West and Stock Island to U.S. Route 1	8.4	13.0
6	From the Atlantic coastline, north of Cow Key Channel, across Stock Island and Key West to U.S. Route 1	9.4[1]	14.4
7	From the Gulf of Mexico coastline across the East Harbor Keys, Fish Hawk Key, Boca Chica Key, and U.S. Naval Air Station Key West to U.S. Route 1	10.7[1]	16.6
8	From the Atlantic coastline across Boca Chica Key and U.S. Naval Air Station Key West to U.S. Route 1	8.9[1]	13.8
9	From the Gulf of Mexico coastline across the Mud Keys, Waltz Key Basin, and Big Coppitt Key to U.S. Route 1	10.8[1]	16.7

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	ELEVATION (FEET) WAVE CREST
10	From the Atlantic coastline near Saddlehill Key, across Big Coppitt Key, Waltz Key Basin, and the Mud Keys to the Gulf of Mexico to U.S. Route 1	9.2[1]	14.2
11	From the Gulf of Mexico coastline across the Shipe Keys, the Saddle Bunch Keys, and Lower Sugar Loaf Sound to U.S. Route 1	11.0[1]	17.1
12	From the Atlantic coastline across the Saddle Bunch Keys, Lower Sugar Loaf Sound, to U.S. Route 1	8.8[1]	13.6
13	From the Gulf of Mexico across Johnston Key, Happy Jack Key, Sugar Loaf Key, and Upper Sugar Loaf Sound to the Atlantic Ocean	9.1	14.1
14	From the Atlantic coastline across Sugar Loaf Key to U.S. Route 1	9.5[1]	14.7
15	From the Atlantic Ocean west of Cudjoe Bay through Bow Channel to Cudjoe Key	9.5[1]	14.7
16	From the Cudjoe Basin west of the Little Swash Keys, across Cudjoe Key to U.S. Route 1	9.6	14.9
17	From the Atlantic Ocean and the Cudjoe Bay coastline east of Bow Channel, across Cudjoe Key to U.S. Route 1	10.5[1]	16.2
18	From the Gulf of Mexico coastline across the Content Keys, Little Crane Key, Raccoon Key, Kemp Channel, and Cudjoe Key to U.S. Route 1	10.3	15.9

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	WAVE CREST
19	From the Atlantic Ocean Cudjoe Bay across Cudjoe Key to Route 1	10.2[1]	15.8
20	From the Gulf of Mexico along Content Passage across Knockendown Key, Kemp Channel, and Cudjoe Key to U.S. Route 1	9.3	14.4
21	From the Atlantic Coastline along Labat Lane across Cudjoe Key to U.S. Route 1	10.0[1]	15.4
22	From the Gulf of Mexico across Content Keys, Torch Key Mangroves, Toptree Hammock Key, and Summerland Key to U.S. Route 1	9.6	14.8
23	From the Atlantic coastline along Caribbean Drive to U.S. Route 1	9.0[1]	13.9
24	From the Gulf of Mexico across Content Keys, Water Keys, Big Torch Keys, Niles Channel, and Summerland Key to U.S. Route 1	8.8	13.6
25	From the Atlantic Ocean across Summerland Key to U.S. Route 1	9.8[1]	15.2
26	From the Gulf of Mexico across Howe Key, Pine Channel, Big Torch Key, Niles Channel, and Ramrod Key to U.S. Route 1	8.8	13.6
27	From the Atlantic Ocean across Ramrod Key to U.S. Route 1	9.5[1]	14.7
28	From the Gulf of Mexico across Cutoe Key, Howe Key, Pine Channel, Middle Torch Key, and Ramrod Key to U.S. Route 1	9.1	14.1
29	From the Atlantic Ocean across Ramrod Key to U.S. Route 1	9.5[1]	14.7

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	ELEVATION (FEET) WAVE CREST
30	From the Gulf of Mexico coastline across Big Spanish Key, Annette Key, and Pine Key to U.S. Route 1	8.5	13.1
31	From the Atlantic coastline across Southeast Point and Big Pine Key to U.S. Route 1	8.1[1]	12.4
32	From the Gulf of Mexico coastline across Johnson Key through the Intercoastal Waterway across Bahia Honda Key to U.S. Route 1	6.5	10.0
33	From the Atlantic coastline across Bahia Honda Key to the Intercoastal Waterway	8.0[1]	12.3
34	From the Atlantic coastline across Boot Key through the intersection of 20th Street and U.S. Route 1 to the Gulf of Mexico	8.2[1]	12.6
35	From the Florida Bay coastline across Boot Key through the intersection of 20th Street and U.S. Route 1 to the Atlantic Ocean	9.2[1]	14.2
36	From the Atlantic coastline across Vaca Key to U.S. Route 1	8.2[1]	12.6
37	From the Atlantic coastline across Vaca Key along 71st Street to the Gulf of Mexico	8.2[1]	12.6
38	From the Florida Bay coastline across Vaca Key along 71st Street to the Atlantic Ocean	9.2[1]	14.2

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	ELEVATION (FEET) WAVE CREST
39	From the Atlantic coastline across Vaca Key, through Marathon Shores, through the intersection of Peter Jay Street and 107th Street to the Gulf of Mexico	8.2[1]	12.6
40	From the Florida Bay coastline across Stirrup Key and Vaca Key, through the intersection of Peter Jay Street and 107th Street to the Atlantic Ocean	9.2[1]	14.2
41	From the Atlantic coastline across Vaca Key, through the City of Key Colony Beach, along 3rd Street to the Gulf of Mexico	8.3[1]	12.8
42	From the Florida Bay coastline across Vaca Key, along 3rd Street, through the City of Key Colony Beach to the Atlantic Ocean	9.4[1]	14.6
43	From the Atlantic coastline across Fat Deer Key to the Gulf of Mexico	8.3[1]	12.8
44	From the Florida Bay coastline across Fat Deer Key to the Atlantic Ocean	9.4[1]	14.6
45	From the Atlantic coastline across Crawl Key to the Gulf of Mexico	8.4[1]	12.9
46	From the Florida Bay coastline across Crawl Key to the Atlantic Ocean	9.7[1]	15.0

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	ELEVATION (FEET) WAVE CREST
47	From the Atlantic coastline across Grassy Key, 205 feet west of Kyle Avenue to the Gulf of Mexico	8.4[1]	12.9
48	From the Florida Bay coastline across Grassy Key, 250 feet west of Kyle Avenue to the Atlantic Ocean	9.7[1]	15.0
49	From the Atlantic coastline across Duck Key and U.S. Route 1 to the Gulf of Mexico	8.6[1]	13.2
50	From the Florida Bay coastline across U.S. Route 1 and Duck Key to the Atlantic Ocean	8.8[1]	13.7
51	From the Atlantic coastline across the western end of Long Key to the Gulf of Mexico	8.8[1]	13.5
52	From the Florida Bay coastline across the western end of Long Key to the Atlantic Ocean	8.4[1]	13.1
53	From the Atlantic coastline across Long Key through the City of Layton to the Gulf of Mexico	8.8[1]	13.5
54	From the Florida Bay coastline across Long Key through the City of Layton to the Atlantic Ocean	8.4[1]	13.1
55	From the Atlantic coastline across Long Key through Long Key Bight to the Gulf of Mexico	8.8[1]	13.5

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	ELEVATION (FEET) WAVE CREST
56	From the Florida Bay coastline across Long Key through Long Key Bight to the Atlantic Ocean	8.4[1]	13.1
57	From the Atlantic coastline across the west end of Lower Matecumbe Key to the Gulf of Mexico	9.0[1]	13.8
58	From the Florida Bay coastline across the west end of Lower Matecumbe Key to the Atlantic Ocean	8.0[1]	12.3
59	From the Atlantic coastline across Lower Matecumbe Key, 400 feet east of Sandy Cove Avenue, to the Gulf of Mexico	9.0[1]	13.8
60	From the Florida Bay coastline across Lower Matecumbe Key, 400 feet east of Sand Cove Avenue, to the Atlantic Ocean	8.0[1]	12.3
61	From the Atlantic coastline across Lower Matecumbe Key through Matecumbe Bight to the Gulf of Mexico	9.0[1]	13.8
62	From the Florida Bay coastline at Matecumbe Bight across Lower Matecumbe Key to the Atlantic Ocean	8.0[1]	12.3
63	From the Atlantic coastline across the west end of Lower Matecumbe Key to the Gulf of Mexico	9.0[1]	13.8

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	ELEVATION (FEET) WAVE CREST
64	From the Florida Bay coastline across the east end of Lower Matecumbe Key to the Atlantic Ocean	8.0[1]	12.3
65	From the Atlantic coastline across the east end of Lower Matecumbe Key, Lignumvitae Channel, and Lignumvitae Key to the Gulf of Mexico	9.0[1]	[illegible]
66	From the Florida Bay coastline across Lignumvitae Key, Lignumvitae Channel, and the east end of Lower Matecumbe Key to the Atlantic Ocean	8.1[1]	[illegible]
67	From the Atlantic coastline across the west end of Upper Matecumbe Key, Shell Key Channel, and Shell Key to Florida Bay	9.1[1]	[illegible]
68	From the Florida Bay coastline across Shell Key, Shell Key Channel, and the west end of Upper Matecumbe Key to the Atlantic Ocean	8.2[1]	[illegible]
69	From the Atlantic coastline across Upper Matecumbe Key, 1,000 feet east of the intersection of The Old Road and Parker Drive, to Florida Bay	9.1[1]	14.1
70	From the Florida Bay coastline across Upper Matecumbe Key, 1,000 feet east of the intersection of The Old Road and Parker Drive, to the Atlantic Ocean	7.7[1]	11.9

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	ELEVATION (FEET) WAVE CREST
71	From the Atlantic coastline across Upper Matecumbe Key, 300 feet from the intersection of U.S. Route 1 and De Leon Avenue, to Florida Bay	9.1[1]	14.1
72	From the Florida Bay coastline across Upper Matecumbe Key, 300 feet from the intersection of U.S. Route 1 and De Leon Avenue, to the Atlantic Ocean	7.7[1]	11.9
73	From the Atlantic coastline across Windley Key to Florida Bay	9.3[1]	14.3
74	From the Florida Bay coastline across Windley Key to the Atlantic Ocean	7.9[1]	12.2
75	From the Atlantic coastline across Plantation Key, 1,000 feet west of the intersection of U.S. Route 1 and Venetian Boulevard, to Florida Bay	9.3[1]	14.3
76	From the Florida Bay coastline across Plantation Key, 1,000 feet west of the intersection of U.S. Route 1 and Venetian Boulevard, to the Atlantic Ocean	7.9[1]	12.2
77	From the Atlantic coastline across Plantation Key, 200 feet east of the intersection of U.S. Route 1 and Plantation Boulevard, to Florida Bay	9.3[1]	14.3
78	From the Florida Bay coastline across Plantation Key, 200 feet east of the intersection of U.S. Route 1 and Plantation Boulevard, to the Atlantic Ocean	7.9[1]	12.2

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	ELEVATION (FEET) WAVE CREST
79	From the Atlantic coastline across Plantation Key, 1,700 feet west of the intersection of U.S. Route 1 and Royal Poinciana Boulevard, to Florida Bay	9.4[1]	14.5
80	From the Florida Bay coastline across Plantation Key, 1,700 feet west of the intersection of U.S. Route 1 and Royal Poinciana Boulevard, to the Atlantic Ocean	7.9[1]	12.2
81	From the Atlantic coastline across the west end of Key Largo, through the intersection of Pointview Road and U.S. Route 1, to Florida Bay	9.4[1]	14.5
82	From the Florida Bay coastline across the west end of Key Largo, through the intersection of Pointview Road and U.S. Route 1, to the Atlantic Ocean	8.2[1]	12.7
83	From the Atlantic coastline across Key Largo, about 600 feet from the intersection of 2nd Street and Dove Lake Drive, through Dove Sound to Florida Bay	9.4[1]	14.5
84	From the Florida Bay coastline through Dove Sound across Key Largo, about 600 feet from the intersection of 2nd Street and Dove Lake Drive to the Atlantic Ocean	8.2[1]	12.7

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	ELEVATION (FEET) WAVE CREST
85	From the Atlantic coastline across Rodriguez Key and Key Largo, about 0.4 mile east of the intersection of U.S. Route 1 and Peter Pan Parkway, through the intracoastal waterway and Butternut Key to Florida Bay	9.6[1]	14.8
86	From the Florida Bay coastline across Butternut Key, the intracoastal waterway, and Key Largo, about 0.4 mile east of the intersection of U.S. Route 1 and Peter Pan Parkway, to the Atlantic Ocean	8.2[1]	12.7
87	From the Atlantic coastline across Key Largo, 600 feet west of the intersection of U.S. Route 1 and Atlantic Boulevard, through Shell Key to Florida Bay	9.6[1]	14.8
88	From the Florida Bay coastline across Shell Key and Key Largo, 600 feet west of the intersection of U.S. Route 1 and Atlantic Boulevard, to the Atlantic Ocean	9.4[1]	14.5
89	From the Atlantic coastline across El Radabob Key, Largo Sound, Key Largo, Blackwater Sound, and Boggy Key to Florida Bay	9.7[1]	15.0
90	From the Florida Bay coastline across Boggy Key, Key Largo, Largo Sound, and El Radabob Key to the Atlantic Ocean	9.6[1]	14.9

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	ELEVATION (FEET) WAVE CREST
91	From the Atlantic coastline across Rattlesnake Key, Garden Cove, Key Largo, and Lake Surprise to Biscayne Bay	9.7[1]	15.0
92	From the Atlantic coastline across Key Largo, about 1,850 feet east of the intersection of Garden Cove and Cayman Lane, to U.S. Route 1	9.7[1]	15.0
93	From the Biscayne Bay at the Barnes Sound coastline across Lake Surprise, Key Largo, Garden Cove, and Rattlesnake Key to the Atlantic Ocean	10.0[1]	14.4
94	From the Atlantic coastline across Key Largo, about 2 miles east of the intersection of State Road 905 and Charlemagne Boulevard, to Biscayne Bay	9.9[1]	15.2
95	From the Biscayne Bay at the Barnes Sound coastline across Key Largo, about 2 miles east of the intersection of State Road 905 and Charlemagne Boulevard, to the Atlantic Ocean	10.0[1]	14.4
96	From the Atlantic coastline across Key Largo, intersecting the Old Dixie Highway at Barnes Point, to Barnes Point	9.9[1]	15.2
97	From the Biscayne Bay at the Barnes Sound coastline across Cross Key, at Division Point, through Little Blackwater Sound and Shell Key to Florida Bay	10.0[1]	14.4

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	ELEVATION (FEET) WAVE CREST
98	From the Florida Bay coastline across Shell Key, Little Blackwater Sound, and Cross Key to Biscayne Bay	9.6[1]	14.9
99	From the Atlantic coastline across Key Largo, through the intersection of State Road 905 and Old Dixie Highway, to Biscayne Bay	10.1[1]	15.5
100	From the Biscayne Bay at the Card Sound coastline across Key Largo, through the intersection of State Road 905 and Old Dixie Highway to the Atlantic Ocean	10.2[1]	15.8
101	From the Atlantic coastline across Key Largo, about 600 feet south of Snapper Point, through Pumpkin Key to Biscayne Bay	10.1[1]	15.5
102	From the Biscayne Bay at the Card Sound coastline across Pumpkin Key and Key Largo, about 600 feet south of Snapper Point, to the Atlantic Ocean	10.9[1]	16.9
103	From the Atlantic coastline across Palo Alto Key to Biscayne Bay	10.1[1]	15.5
104	From the Biscayne Bay at the Card Sound coastline across Palo Alto Key to the Atlantic Ocean	10.9[1]	16.9
105	From the Florida Bay coastline, 400 feet east of Flamingo North, to Whitewater Bay	10.5[1]	16.2

[1]Includes effects of wave setup

TABLE 3 - TRANSECT LOCATIONS, STILLWATER STARTING ELEVATIONS, AND INITIAL WAVE CREST ELEVATIONS (Continued)

TRANSECT	LOCATION	ELEVATION (FEET) STILLWATER	ELEVATION (FEET) WAVE CREST
106	From the Gulf of Mexico coastline between Middle Cape and East Cape across Lake Ingraham and Whitewater Bay to the Monroe-Dade County border	14.3[1]	22.0
107	From the Gulf of Mexico coastline about 0.5 mile north of Northwest Cape, east through Whitewater Bay to the Monroe-Dade County border	15.2[1]	23.4
108	From the Gulf of Mexico coastline through Shark Point, across the Harney River to the Monroe-Dade County border	15.6[1]	24.1
109	From the Gulf of Mexico coastline, 400 feet south of Highland Point, across Big Lostmans Bay to the Monroe-Dade County border	16.7[1]	25.8
110	From the Gulf of Mexico coastline, 700 feet north of Alligator Point, across Alligator Bay to the Monroe-Collier County border	13.7[1]	21.2
111	From the Gulf of Mexico, coastline about 0.5 mile south of the Monroe-Collier County border, to Sunday Bay	11.0[1]	17.1
112	From the Atlantic coastline across Marquesas Key to the Gulf of Mexico	7.8[1]	12.0
113	From the Gulf of Mexico coastline across Marquesas Key to the Atlantic Ocean	7.8[1]	12.0

[1]Includes effects of wave setup

Figure 4 represents a sample transect that illustrates the relationship between the stillwater elevation, the wave crest elevation, the ground elevation profile, and the location of the A/V zone boundary.

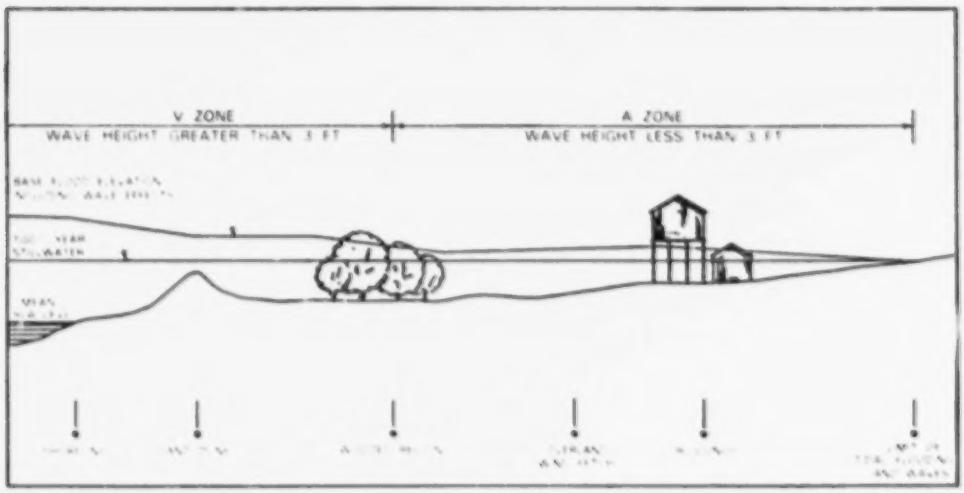

FIGURE 4 - Transect Schematic

After analyzing wave heights along each transect, wave elevations were interpolated between transects. Various source data were used in the interpolation, including topographic maps (Reference 20), aerial photographs (Reference 25), and engineering judgment. Controlling features affecting the elevations were identified and considered in relation to their positions at a particular transect and their variation between transects.

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD). Elevation reference marks used in this study are shown on the maps.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages State and local governments to adopt sound floodplain management programs. Therefore, each Flood Insurance Study produces maps designed to assist communities in developing floodplain management measures.

4.1 Flood Boundaries

To provide a national standard without regional discrimination, the 1 percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2 percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each flooding source studied in detail, the 100- and 500-year floodplain boundaries have been delineated using the flood elevations determined at each transect. Between transects, the boundaries

were interpolated using topographic maps at a scale of 1:24000 with a contour interval of 5 feet (Reference 20).

Floodplain boundaries are indicated on the Flood Insurance Rate Map. On this map, the 100-year floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE, and VE) and the 500-year floodplain boundary corresponds to the boundary of areas of moderate flood hazards (Zone X). In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone VE

Zone VE is the flood insurance rate zone that corresponds to the 100-year coastal floodplains that have additional hazards associated with storm waves. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 100-year floodplain, areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood area is less than 1 square mile, and areas protected from the 100-year flood by levees. No base flood elevations or depths are shown within this zone.

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction

with information on structures and their contents to assign premium rates for flood insurance policies.

The Flood Insurance Rate Map for Monroe County, Florida is, for insurance purposes, the principal product of the Flood Insurance Study. This map contains the official delineation of flood insurance zones and base flood elevations. For each flooding source, the expected water-surface elevations of the base (100-year) flood are shown as a weighted average within zones. Each whole-foot elevation is delineated except where cartographic considerations require the combination of two or more elevation zones.

The current Flood Insurance Rate Map presents flooding information for the geographic area of Monroe County. Previously, separate Flood Insurance Rate Maps were prepared for each flood-prone incorporated community and the unincorporated areas of the county. Historical data relating to the maps prepared for each community are presented in Table 4, Community Map History.

7.0 OTHER STUDIES

Flood Insurance Studies published for Dade and Collier Counties, Florida (References 26 and 27) are in agreement with this study.

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, FEMA, 1371 Peachtree Street, NE., Suite 736, Atlanta, Georgia 30309.

9.0 REFERENCES AND BIBLIOGRAPHY

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2. ————, Flood Insurance Study, City of Key West, Monroe County, Florida, November 1983.

3. ————, Flood Insurance Study, City of Layton, Monroe County, Florida, November 1983.

4. ————, Flood Insurance Study, Monroe County, Unincorporated Areas, Florida, February 1988.

5. University of Florida, Bureau of Economic and Business Research, Florida Estimates of Population, April 1986.

6. U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population, Number of Inhabitants, Florida, Washington, D.C., February 1982.

7. Del Marth and Martha J. Marth, eds., The Florida Almanac 1986-1987, Pelican Publishing Company, 1985.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
KEY COLONY BEACH, CITY OF	JUNE 20, 1970		JUNE 20, 1970	JULY 1, 1974 OCTOBER 17, 1975 JANUARY 5, 1976 NOVEMBER 2, 1983
KEY WEST, CITY OF	JUNE 19, 1970		SEPTEMBER 3, 1971	JULY 1, 1974 OCTOBER 29, 1976 NOVEMBER 2, 1983
LAYTON, CITY OF	JULY 1, 1970		JULY 1, 1970	JULY 1, 1974 JANUARY 23, 1976 NOVEMBER 2, 1983
UNINCORPORATED AREA	JUNE 20, 1970		JUNE 20, 1970	JULY 1, 1974 JULY 2, 1976 DECEMBER 1, 1983 DECEMBER 18, 1986 FEBRUARY 4, 1988

TABLE 4

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONROE COUNTY, FL AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

8. American Meteorological Society, Early American Hurricanes 1492-1870, David M. Ludlum, 1963.

9. U.S. Army Corps of Engineers, Jacksonville District, Analysis of Hurricane Problems in Coastal Areas of Florida, September 1961.

10. U.S. Department of Commerce, Environmental Sciences Services Administration, Technical Memorandum WBTM, Hydro 11, Joint Probability Method of Tide Frequency Analysis Applied to Atlantic City and Long Beach Island, New Jersey, Vance A. Myers, April 1970.

11. ----------, National Oceanic and Atmospheric Administration, National Weather Service, Tropical Cyclones of the North Atlantic Ocean, 1871-1984, July 1985.

12. ----------, National Oceanic and Atmospheric Administration, Technical Report NWS 15, Some Climatological Characteristics of Hurricanes and Tropical Storms, Gulf and East Coasts of the United States, Frances P. Ho, Richard W. Schwerdt, and Hugo V. Goodyear, May 1975.

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14. ----------, National Oceanic and Atmospheric Administration, National Weather Service, Office of Hydrology, Water Management Information Division, Hurricane Climatology for the Atlantic and Gulf Coasts of the United States, Francis P. Ho, James C. Su, Karen L. Hanevich, Rebecca J. Smith, and Frank Richards, December 1986.

15. Federal Emergency Management Agency, Coastal Flooding Storm Surge Model, SURGE, Washington, D.C., 1988.

16. U.S. Army Corps of Engineers, Coastal Engineering Research Center, Shore Protection Manual, Vicksburg, Mississippi, 1984.

17. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Survey, Bathymetric Maps, Datum Mean Low Water, NC 17-2 and NG 17-11, Scale 1:25000; Fort Pierce, Florida, 1972; Orlando, Florida, 1972.

18. ----------, National Oceanic and Atmospheric Administration, NOS Hydrographic Surveys, Scale 1:40000; Scale 1:20000; Scale 1:15000; Scale 1:10000. Scale 1:40000: H4169A, 1920; H4169B, 1919-1935; Scale 1:20000: H281 1851; H5542, 1934; H5595, 1935; H5778, 1935; H5879A, 1935; H5888, 1935; H5892A, 1935, H5947, 1935; H5952, 1935; H6113, 1935; H6133, 1935-1936; H6137, 1935, 1936, 1937; H6158, 1936; H6318, 1935, 1937, 1938; H6323, 1937, 1938; H6324, 1939; H6325, 1938; H6326, 1938, 1939; Scale 1:15000: H4138, 1919; H4166, 1920; Scale 1:10000: H5908, 1935; H5909, 1935; H5923, 1935; H5924, 1935; H5925, 1934-1935.

19. ----------, National Oceanic and Atmospheric Administration, Nautical Chart No. 11013, September 1981; No. 11420, August 1981; No. 11460, February 1982; No. 11434, November 1981, Revised July 1983; No. 11439, May 1981; No. 11442, May 1975; No. 11452, December 1982; No. 11462, July 1982; No. 11445A & B, February 1984; No. 11448, June 1983.

20. U.S. Geological Survey, 7.5 Minute Series Topographic Maps, Scale 1:24000, Contour Interval 5 Feet: Monroe County, Florida, Orthophotomaps: Everglades City, 1974; Chokoloskee, 1974; Gator Hook Swamp, 1973; Monroe Station, 1973; Fifty-Mile Bend, 1973; Lostmans Trail, 1972; Big Boy Lake, 1972; Alligator Bay, 1973; Pavilion Key, 1973; Plover Key, 1973; Lostmans River Ranger Station, 1973; Big Lostmans Bay, 1973; Indian Camp Creek, 1972; Tarpon Bay, 1972; Harney River, 1972; Shark Point, 1972; Shark River Island, 1972; White Water Bay West, 1972; White Water Bay East, 1972; Lake Ingraham West, 1972; Lake Ingraham East, 1972; Flamingo, 1973; West Lake, 1972; Madiera Bay, 1972; Joe Bay, 1972; Tavernier, 1971; Calusa Keys, 1972; Pelican Keys, 1972; Cove Key, 1972; Sandy Key, 1972; East Bahia Honda Key NE, 1972; Schooner Bank, 1972; Buchanan Keys, 1972; Upper Matecumbe Key, 1971; Plantation Key, 1971; Lower Matecumbe Key, 1971; Long Key, 1971; Grassy Key, 1971; Bamboo Key, 1972; East Bahia Honda Key, 1972; Horseshoe Keys, 1972; Content Keys, 1972; Sawyer Key, 1972; Bay Keys, 1972; Snipe Keys, 1972; Sugarloaf Key, 1972; Summerland Key, 1972; Big Pine Key, 1972; Sevenmile Bridge, 1972; Marathon, 1971; Crawl Key, 1971; Marquesas Keys West, 1971; Marquesas Keys East, 1971; Cottrell Key, 1972; Key West, 1971; Boca Chica Key, 1971; Saddlebunch Keys, 1972; Loggerhead Key, 1972; Glades, 1947-56, photorevised 1973; Card Sound, 1947-56, photorevised 1973; Blackwater Sound, 1947, photorevised 1969, photoinspected 1973; Garden Cove, 1947, photorevised 1969, photoinspected 1973; Rock Harbor, 1947, photorevised 1969, photoinspected 1973.

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22. Florida Department of Transportation, Various Bridge and Approach Plans.

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26. Federal Emergency Management Agency, Flood Insurance Study, Dade County, Unincorporated Areas, Florida, November 1987.

27. ————, Flood Insurance Study, Collier County, Unincorporated Areas, Florida, June 1986.

ELEVATION REFERENCE MARKS

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DISCRIPTION OF LOCATION
1	1709	5.052	C&GS iron BM disk stamped "P121 1945" along north side of Roosevelt Boulevard, approximately .79 mile east of intersection of Roosevelt Boulevard and Kennedy Drive
2	1709	5.075	C&GS iron BM disk stamped "P121 1945" on seawall located at southeast corner of intersection of Flagler Avenue and Roosevelt Boulevard
3	1716	11.614	C&GS BM disk stamped "U267 1966" at west corner of intersection of Whitehead Street and Truman Avenue
4	1716	7.215	C&GS BM disk stamped "V 267 1966" at south corner of intersection of Truman Avenue and Windsor Lane
5	1717	4.262	U.S.E. disk stamped "KH 1 1959" set in sidewalk along north side of Roosevelt Boulevard at intersection of Fourth Street
6	1717	7.490	C&GS BM disk stamped "Q121 1945" set vertically in east brick face of Mortello Museum, 1.2 miles southeast of intersection with Flagler Avenue along south Roosevelt Boulevard
7	1728	17.303	C&GS iron BM disk stamped "J 121 1945" at southwest end of Overseas Highway bridge over Boca Chica Channel
8	1728	8.471	C&GS BM disk stamped "C 271 1966" along south side of Overseas Highway, .95 mile southwest of Boca Chica bridge
9	1728	3.366	C&GS BM disk stamped "N 272 1966" along north side of Overseas Highway, 86 yards east of east end of bridge over Cow Key Channel

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
10	1729	3.317	C&GS BM disk stamped "K 271 1966" set on top of southwest headwall of pipe culvert at southwest corner of intersection of Independence Avenue and Shangri-La Avenue
11	1729	9.619	C&GS BM disk stamped "E 271 1966" on top of concrete manhole base, .28 mile northeast of Overseas Highway bridge over Boca Chica Channel
12	1732	5.105	C&GS BM disk stamped "P 271 1966" at southwest end of Overseas Highway bridge over Saddlebunch No. 5 Channel
13	1732	2.198	C&GS reference mark disk stamped "COP RM 1 1934" along south side of Overseas Highway approximately .19 mile east of intersection with Offspray Road
14	1733	7.999	C&GS BM disk stamped "U 70 Reset 1939" on top of southeast concrete wingwall, at northeast end of Overseas Highway bridge over Rockland Channel
15	1733	6.581	C&GS BM disk stamped "L 271 1966" approximately 1.06 miles east of intersection of 1st Street along Overseas Highway
16	1751	8.366	C&GS BM disk stamped "S 70 Reset 1939" on top of southeast concrete wingwall, at southwest end of Overseas Highway bridge over Saddlebunch No. 3 Channel
17	1751	11.965	C&GS BM disk stamped "Q 271 1966" set on southeast curb at northeast end of Overseas Highway bridge over Saddlebunch No. 4 Channel

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
18	1490	6.155	C&GS BM disk stamped "Q 272 1966" along north side of Overseas Highway, approximately 528 feet northeast of northeast end of bridge over Harris Channel
19	1490	9.114	C&GS BM disk stamped "R 70 Reset 1938" on top of southeast wingwall at northeast end of Overseas Highway bridge over lower Sugarloaf Channel
20	1492	12.835	C&GS BM disk stamped "M 70 Reset 1938" on top of south concrete wingwall at east end of Overseas Highway bridge over Bow Channel
21	1492	5.801	C&GS BM disk stamped "D 272 1966" set in concrete manhole base along north side of Overseas Highway at intersection with old State Road 4A
22	1493	4.636	C&GS tidal mark disk stamped "Perky Lake NO. 2 1935" set on north concrete wingwall, at east end of Overseas Highway bridge over Park Channel
23	1493	11.785	C&GS BM disk stamped "B 272 1966" set on north concrete curb at east end of Overseas Highway bridge over north Harris Channel
24	1493	15.413	Florida State Highway Department disk stamped "Z 271" set on northwest abutment of bridge over canal at intersection of Sugarloaf Boulevard and Sea Grape Lane
25	1494	2.398	C&GS BM disk stamped "E 272 1966" about 250 feet east of Old State Road 4A, .55 mile south of intersection with Overseas Highway
26	1494	1.624	C&GS BM disk stamped "X272 1966" set in top of concrete post approximately 477 feet north of northeast corner of wooden bridge over Tarpen Creek

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
27	1507	2.841	C&GS BM disk stamped "N 273 1966" along north side of Kyle Boulevard, approximately 150 feet north of intersection with Coconut Street
28	1507	3.159	C&GS BM disk stamped "P 273 1966" set in top of concrete post approximately 148 feet west of junction of Mary Road and Mills Road
29	1509	6.066	C&GS BM disk stamped "L 273 1966" along east side of Key Deer Boulevard, approximately 875 feet southeast of intersection Key Deer Boulevard and Higgs Place
30	1509	3.524	C&GS BM disk stamped "M 273 1966" along east side of Key Deer Boulevard, approximately .28 mile southeast of intersection of Key Deer Boulevard and Bryant Avenue
31	1511	5.315	C&GS BM disk stamped "J 272 1966" set in concrete manhole base just east of intersection of Overseas Highway and Henry Morgan Road
32	1511	4.308	C&GS Triangulation Station disk set in round concrete post approximately .34 mile west of Perry Street along Overseas Highway
33	1512	10.643	C&GS BM disk stamped "K 272 1966" along east side of Caribbean Drive, approximately 166 feet south of junction with U.S. Route 1
34	1512	3.251	C&GS tidal mark disk stamped "No. 1 1937" set in top of south concrete wingwall at west end of U.S. Route 1 bridge over Kemp Channel
35	1516	1.824	C&GS BM disk stamped "R 272 1966" set in exposed bedrock at northwest corner of intersection of Old State Road 4A and Mako Avenue

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
36	1516	3.238	C&GS BM disk stamped "No. 1 1937" set in top of south concrete wingwall at east end of Overseas Highway bridge over Niles Channel
37	1517	8.993	C&GS BM disk stamped "J 70 Reset 1938" set on top of south concrete wingwall at east end of Overseas Highway bridge over Torch Channel
38	1517	13.097	C&GS BM disk stamped "L 272 1966" set on top of north concrete curb at west end of Overseas Highway bridge over Torch Ramond Channel
39	1528	4.613	C&GS BM disk stamped "B 273 1966" set in concrete post at northeast corner of intersection of Key Deer Boulevard and Watson Boulevard
40	1528	8.865	C&GS BM disk stamped "C 273 1966" set on top of west concrete wingwall of small bridge over canal along Watson Boulevard
41	1528	2.241	C&GS BM disk stamped "E 273 1966" set on top of west concrete seawall at southeast corner of intersection of Watson Boulevard and Bogie Road
42	1536	4.108	C&GS BM disk stamped "S 272 1966" along south side of U.S. Route 1 approximately .68 mile east of intersection of U.S. Route 1 and Chapman Street
43	1536	2.972	C&GS BM disk stamped "A 273 1966" set in top of concrete post along east side of Key Deer Boulevard, approximately .8 mile northwest of intersection of U.S. Route 1 and Key Deer Boulevard
44	1536	4.521	Department of Transportation disk stamped "9070 E 25" set in concrete post approximately 39 feet north and 116 feet west of intersection of U.S. Route 1 and Ships Way

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
45	1537	2.064	C&GS BM disk stamped "V 272 1966" approximately .33 mile southeast of Beach Drive along U.S. Route 1, about 41.5 feet southwest of centerline of highway
46	1539	2.159	C&GS tidal mark disk stamped "No. 1 1937" set on top of south concrete wingwall at east end of U.S. Route 1 bridge over Spanish Harber Channel
47	1539	2.123	C&GS BM disk stamped "K 273 1966" set on top of south concrete wingwall at west end of U.S. Route 1 bridge over Spanish Harbor Channel
48	1539	0.846	C&GS reference mark disk stamped "GIB No. 1 1935" set in top of concrete post approximately .4 mile northwest of U.S. Route 1 from west end of bridge over Spanish Harbor Channel, about 145 feet northeast of centerline of highway
49	1545	4.203	C&GS BM disk stamped "U272 1966" along south side of Overseas Highway approximately .4 mile southwest of southwest end of bridge over Ohio Bahia Honda Channel
50	1545	8.074	C&GS BM disk stamped "G 273 1966" set on top of concrete manhole base along south side of Overseas Highway approximately .85 mile east of east end of old bridge over Bahai Honda Channel
51	1545	24.465	C&GS BM disk stamped "E 70 Reset 1936" set on top of south concrete wingwall at west end of old bridge over Bahia Honda Channel
52	1565	16.634	C&GS tidal mark disk stamped "No. 1" set on top of south concrete wingwall at west end of 7 mile bridge along Overseas Highway

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DISCRIPTION OF LOCATION
53	1565	10.679	C&GS BM disk stamped "C 70 Reset 1936" set on top of southeast concrete wingwall at east end of Overseas Highway bridge over Ohio Bahia Honda Channel
54	1560	27.641	C&GS BM disk stamped "V 278 1966" set on top of north concrete curb, 1.95 miles west of east end of Sevenmile Bridge
55	1578	7.362	C&GS BM disk stamped "S 273 1966" along north side of Overseas Highway about 475 feet east of intersection with 30th Street
56	1578	5.312	C&GS BM disk stamped "R 273 1966" set on concrete manhole base just north of intersection of 14th Street and Overseas Highway
57	1578	25.800	C&GS reference mark disk stamped "Knight No. 2 1935" set on top of south concrete wingwall at east end of Sevenmile Bridge
58	1579	2.333	C&GS BM disk stamped "T 273 1966" set on top of Bedrock along north side of Overseas Highway about 156 feet west of 43rd Street
59	1582	7.379	C&GS BM disk stamped "Y 273 1966" set in top of concrete base of radio tower along south side of Overseas Highway about .6 mile northeast of northeast end of bridge over Key Vaca Cut
60	1582	7.723	C&GS BM disk stamped "V 277 1966" set in top of concrete manhole base along north side of Overseas Highway about 1.9 miles northeast of northeast end of bridge over Key Vaca Cut

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
61	1289	4.373	C&GS BM disk stamped "B 279 1966" set in top of concrete post along south side of Overseas Highway about 600 feet northeast of Guave Avenue intersection
62	1289	4.049	G&GS BM disk stamped "Z 277 1966" set in top of concrete post along south side of Overseas Highway about .22 miles southeast of Kyle Avenue intersection
63	1291	10.951	C&GS BM disk stamped "P 278 1966" set in top of east concrete wingwall at northeast end of Toms Harbor Cut bridge
64	1292	7.539	C&GS BM disk stamped "N 278 1966" set in top of concrete manhole base along south side of Overseas Highway about .35 mile southwest of southwest end of Long Key bridge
65	1293	13.245	C&GS BM disk stamped "R 69 Reset 1936" set in top of northwest wingwall at northeast end of Toms Harbor Channel bridge
66	1293	5.374	C&GS BM disk stamped "S 278 1966" set in top of concrete manhole base along south side of Overseas Highway about .65 mile southwest of southwest end of Toms Harbor Channel bridge
67	1304	2.753	C&GS BM disk stamped "F 278 1966" set in top of northeast end of seawall along north side of Overseas Highway about 52 feet west of Layton Drive intersection
68	1304	5.121	C&GS BM disk stamped "H 278 1966" set in top of north corner of concrete foundation along south side of Overseas Highway about .86 mile of Snapper Creek Drive intersection

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
69	1308	5.207	C&GS BM disk stamped "D 278 1966" along south side of Overseas Highway about 1.7 miles northeast of Layton Post Office
70	1308	5.092	C&GS BM disk stamped "E 278 1966" set in top of concrete manhole base along south side of Overseas Highway about 1.3 miles northeast of Layton Post Office
71	1309	8.839	C&GS disk stamped "B 278 1966" along south side of Overseas Highway about .4 mile southwest of southwest end of bridge over Channel Two
72	1309	12.759	C&GS BM disk stamped "C 278 1966" set in top of northeast wingwall at east end of Overseas Highway Bridge over Channel Five
73	1311	12.487	C&GS BM disk stamped "L 278 1966" set in top of southeast concrete headwall for box culvert about .15 mile northeast of northeast end of Long Key bridge along Overseas Highway
74	1312	2.782	C&GS BM disk stamped "J 278 1966" set in top of concrete seawall about .85 mile northeast of northeast end of Long Key bridge along Overseas Highway
75	1326	6.191	C&GS BM disk stamped "Z 276 1966" set in top of concrete manhole base about 70 feet southwest of Sandy Cove Avenue along Overseas Highway
76	1326	4.724	C&GS BM disk stamped "A 278 1966" set on top of concrete manhole base along south side of Overseas Highway about .8 mile north of north end of bridge over Channel Two

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DISCRIPTION OF LOCATION
77	1326	16.549	C&GS BM disk stamped "K 69 Reset 1936" set in top of north concrete wingwall at north end of Overseas Highway bridge over Channel Two
78	1327	6.119	U.S.E. disk stamped "IWSW 3 1960 JAX" set in concrete manhole base about 350 feet northeast of intersection of Columbus Drive along Overseas Highway
79	1114	4.564	C&GS BM disk stamped "X 276 1966" set in top of concrete anchor block for waterline about 120 feet south of south corner of Overseas Highway bridge over Lignumvitae Channel
80	1117	5.774	C&GS BM disk stamped "P 276 1966" set in concrete base for water line at north center of intersection of Overseas Highway and Park Road
81	1117	8.940	C&GS BM disk stamped "Q 276 1966" set in concrete base for water line along south side of Overseas Highway about 230 feet southeast of De Leon Avenue intersection
82	1118	8.497	C&GS BM disk stamped "T 276 1966" set in top of concrete abutment at southwest end of Overseas Highway bridge over Tea Table Relief Canal
83	1118	7.808	C&GS BM disk stamped "U 276 1966" set in top of concrete anchor block for water line at southwest end of Overseas Highway Bridge over Teatable Key Channel
84	118	6.644	C&GS BM disk stamped "V 276 1966" set in top of concrete manhole base along south side of Overseas Highway about 350 feet northeast of northeast end of Indian Key Channel bridge

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
85	1128	3.524	C&GS BM disk stamped "M 276 1966" set in top of concrete manhole base along northwest side of Overseas Highway about .25 mile northeast of northeast end of bridge over Whale Harbor Channel
86	1128	5.873	C&GS BM disk stamped "N 276 1966" set in top of concrete anchor block for water line, at southwest end of Overseas Highway bridge over Whale Harbor Channel
87	1129	11.129	C&GS BM disk stamped "J 276 1966" set in top of concrete manhole base about 138 feet southeast of intersection of Overseas Highway and Orange Lane
88	1129	8.176	C&GS BM disk stamped "K 276 1966" set in top of concrete base supporting anchor, about 300 feet southeast of Overseas Highway and 1.0 mile northeast of Overseas Highway bridge over Snake Creek
89	1129	4.514	C&GS BM disk stamped "L 276 1966" along north side of Overseas Highway about .15 mile southwest of Overseas Highway bridge over Snake Creek
90	992	9.104	C&GS reference mark disk stamped "Planter 2 No. 3 1961" along south side of Overseas Highway about .54 mile southwest of Casa Court Drive Junction
91	994	4.947	C&GS BM disk stamped "B 276 1966" set in concrete base of church sign about .9 mile northeast of Tavernier Post Office along Overseas Highway
92	994	11.181	C&GS BM disk stamped "C 276 1966" set in rear loading platform at Tavernier Post Office

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DISCRIPTION OF LOCATION
93	994	3.553	C&GS tidal disk stamped "No. 1 1935" set in top of concrete post along south side of Lowe Street about .25 mile east of intersection with Overseas Highway
94	994	10.985	C&GS BM disk stamped "E 276 1966" set in top of east concrete abutment at Tavernier Creek bridge over Overseas Highway
95	1011	6.854	C&GS Azimuth Mark disk stamped "Planter 2 1961" set in top of concrete post about 325 feet southwest of Lime Street Junction along Overseas Highway
96	1011	9.728	C&GS BM disk stamped "A 276 1966" along Overseas Highway about .27 mile northeast of Heron Road Junction
97	1131	9.259	C&GS BM disk stamped "G 276 1966" set in top of concrete manhole base along east side of Overseas Highway about 625 feet west of junction with Woods Avenue
98	1601	6.391	C&GS BM disk stamped "W 277 1966" set in top of concrete manhole base along north side of Overseas Highway about 1.14 miles northeast of Junction with Coco Plum Drive
99	1003	11.119	C&GS BM disk stamped "Z 275 1966" set in top of concrete base for water line, along south side of Overseas Highway about .80 mile southwest of junction with Ocean Drive
100	1004	10.105	C&GS BM disk stamped "Y 275 1966" set in top of concrete manhole base along south side of Overseas Highway about 525 feet northeast of junction with Ocean Drive

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
101	1004	11.427	C&GS BM disk stamped "W 68 1934 11.319" set in top of concrete post along north side of Overseas Highway about .48 mile northeast of junction with Frances Drake Drive
102	1006	12.936	C&GS Azimuth mark disk stamped "Rock Harbor 2 1961" along east side of Overseas Highway about .17 mile northeast of junction with Atlantic Drive
103	1006	9.449	G&GS BM disk stamped "Z 274 1966" along Overseas Highway about .22 mile southwest of junction with Gumbolimbo Drive
104	843	11.942	C&GS BM disk stamped "Y 274 1966" set in top of square concrete anchor block for water line, along south side of Overseas Highway about 600 feet southwest of junction with Canal Street
105	844	13.022	U.S.E. disk stamped "IWSM 9 1960 JAX" set in top of concrete manhole base along north side of Overseas Highway about .56 mile northeast of junction of Avenue A
106	844	13.392	C&GS BM disk stamped "V 274 1966" set in concrete manhole base about 65 feet north of Overseas Highway and Oceana Drive intersection
107	844	3.035	C&GS tidal disk stamped "No. 3 1935" set in top of concrete wall about .35 mile east of Overseas Highway and Oceana Drive intersection
108	844	14.423	C&GS BM disk stamped "X 274 1966" set in top of concrete manhole base along west side of Overseas Highway about 275 feet southwest of junction of Marlin Avenue

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
109	865	10.469	C&GS BM disk stamped "S 274 1966" set in top of rock outcrop about 160 feet north of junction of State Road 905 and Garden Cove Road
110	865	6.217	C&GS tidal disk stamped "No. 1 1935" set in top of sidewalk about .38 mile east along Gorden Cove Road from junction with Cayman Road
111	865	11.854	C&GS BM disk stamped "D 275 1966" set in top of rock outcrop about 1.1 miles northeast along State Road 905 from its junction with Garden Cove Road
112	842	11.211	C&GS BM disk stamped "T 274 1966" along east side of Overseas Highway about 530 feet northeast from junction of Blackwater Lane
113	855	13.205	C&GS triangulation station disk stamped "Knowlson 1935 1961" along west side of State Road 905 about .41 mile northeast of junction with Palm Drive
114	855	11.411	C&GS BM disk stamped "F 275 1966" set in top of concrete box along west side of Overseas Highway about 1.9 miles northeast of junction with Palm Drive
115	855	13.028	C&GS BM disk stamped "G 275 1966" set in top of rounded rock along northwest side of State Road 905 about 2.7 miles northeast of junction with Palm Drive
116	665	2.556	C&GS benchmark disk stamped "D 316 1970" along north side of Old Dixie Highway about 1.0 mile east of east end of Steamboat Creek bridge

ELEVATION REFERENCE MARKS (Continued)

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
117	665	8.829	C&GS benchmark disk stamped "J 275 1966" set in top of rock overcrop along east side of State Road 905 about 6.4 miles northeast of intersection with Garden Cove Road
118	668	10.502	U.S.E. disk stamped "AAD 66 1965" Jacksonville set in top of concrete post along west side of State Road 905 about 7.2 miles northeast of intersection with Garden Cove Road
119	668	9.678	C&GS BM disk stamped "DRY No. 1," .015 mile west along road intersecting with State Road 905 about 8.65 miles northeast of intersection with Garden Cove Road
120	666	6.834	C&GS benchmark disk stamped "N 275 1966" set in top of rock outcrop along east side of State Road 905, about .30 mile south of junction with Gumbo-limbo Drive.